

NODE=M234

 **$\chi_{c0}(4500)$** 

$$I^G(J^{PC}) = 0^+(0^{++})$$

OMMITTED FROM SUMMARY TABLE  
was  $X(4500)$

This state shows properties different from a conventional  $q\bar{q}$  state.  
A candidate for an exotic structure. See the review on non- $q\bar{q}$  states.

Seen by AAIJ 17C in  $B^+ \rightarrow \chi_{c0} K^+$ ,  $\chi_{c0} \rightarrow J/\psi \phi$  using an amplitude analysis of  $B^+ \rightarrow J/\psi \phi K^+$  with a significance (accounting for systematic uncertainties) of  $6.1\sigma$ .

<b><math>\chi_{c0}(4500)</math> MASS</b>					NODE=M234M
VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=M234M
<b><math>4506 \pm 11^{+12}_{-15}</math></b>	4289	<sup>1</sup> AAIJ	17C LHCb	$B^+ \rightarrow J/\psi \phi K^+$	
<sup>1</sup> From an amplitude analysis of the decay $B^+ \rightarrow J/\psi \phi K^+$ with a significance of $6.1\sigma$ .					
<b><math>\chi_{c0}(4500)</math> WIDTH</b>					
VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=M234W
<b><math>92 \pm 21^{+21}_{-20}</math></b>	4289	<sup>1</sup> AAIJ	17C LHCb	$B^+ \rightarrow J/\psi \phi K^+$	NODE=M234W
<sup>1</sup> From an amplitude analysis of the decay $B^+ \rightarrow J/\psi \phi K^+$ with a significance of $6.1\sigma$ .					
<b><math>\chi_{c0}(4500)</math> DECAY MODES</b>					
Mode					
$\Gamma_1$	$J/\psi \phi$				DESIG=1
<b><math>\chi_{c0}(4500)</math> BRANCHING RATIOS</b>					
$\Gamma(J/\psi \phi)/\Gamma_{\text{total}}$				$\Gamma_1/\Gamma$	NODE=M234220
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=M234R01 NODE=M234R01
seen	4289	<sup>1</sup> AAIJ	17C LHCb	$B^+ \rightarrow J/\psi \phi K^+$	NODE=M234R01;LINKAGE=A
<sup>1</sup> From an amplitude analysis of the decay $B^+ \rightarrow J/\psi \phi K^+$ with a significance of $6.1\sigma$ .					
<b><math>\chi_{c0}(4500)</math> REFERENCES</b>					
AAIJ Also	17C PR D95 012002	PRL 118 022003 R. Aaij <i>et al.</i>	R. Aaij <i>et al.</i>	(LHCb Collab.) JP (LHCb Collab.)	REFID=57657 REFID=57636